

REMARKS

In the Office Action dated 03/07/03, all the claims in the above-identified case were subject to a requirement for restriction. Applicant provisionally elects to prosecute claims drawn to the DNA encoding a hydrogenase set forth in Group III. Claims 4,6 and 11, read on the elected invention. In addition, the process for photosynthetic hydrogen production set forth in Claim 16(Amended) utilizes the protein amino acid sequence set forth in Claim 5, which is the expression product of the DNA sequence (SEQ. ID. NO. 2) set forth in Claim 4.

The undersigned has reviewed the Restriction Requirement and offers the following comments. This invention provides a plurality of gene sequences present in certain identified species of green algae and a method for using the identified gene sequences for the production of hydrogen. The DNA sequences are similar to one another (i.e., highly conserved) and are derived from three different species of green algae. Applicant believes that the DNA sequences set forth in Claims 4,6 and 11, all derived from *C. reinhardtii*, and the protein hydrogenase defined in Claim 5 (the expression product of the DNA sequences recited in Claims 4,6 and 11, when used in accordance with the process set forth in Claim 16(Amended), are a distinct **embodiment** of the invention. Notwithstanding the Examiner's assertion that portions of the DNA *could* be used as a probe, or the assertion that the proteins *could* be made by means other than genetic expression, the Applicant respectfully submits that the elected DNA sequences (i.e., c-DNA and mRNA from *C. reinhardtii*) and/or its expression product set forth in

claim 5, when used in accordance with the process of Claim 16(Amended), disclose a single species of the invention. Accordingly, all other claims are withdrawn from further consideration (with traverse) at this time. The undersigned would be pleased to discuss this election with the Examiner if, in the Examiner's opinion, such a conference is necessary in order for prosecution on the merits to proceed.

In view of the foregoing Preliminary Amendment, it is requested that the Examiner issue an Office Action in which Claims 4,5,6,11, 13(Amended), 14(Amended), 16(Amended), 19(Amended) and 20(Amended) in the above-identified case are examined.

Respectfully submitted,



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CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service as Express Mail (Label No. EV118367637US) on the date shown below with sufficient postage in an envelope addressed to the: Commissioner of Patents and Trademarks, Washington, D.C. 20231

Date: April 3, 2003

by:



Michael G. Petit